1-23 ORIGINALLY PENDING

In the Claims:

Please cancel claims 1-27 without prejudice or disclaimer and add the following claims:

24 --30. An immunologically active peptide comprising at least 15 consecutive amino acids selected from the amino acids in the following sequence:
VWGIRQLRARLQALETLIQNQQRLNLWGXKGKLIXYTSVKWNTSWSGR,
wherein X is C or S.

25 31. The peptide of claim 30, wherein said at least 15 consecutive amino acids are selected from the amino acids in the following amino acid sequence:
RLQALETLIQNQQRLNLWGXKGKLIXYTSVKWN
wherein X is C or S.

26 32. The peptide of claim 30 which binds antibodies against retroviruses of the HIV type.

27 33. The peptide of claim 30 comprising from 20 to 30 consecutive amino acids.

28 34. The peptide of claim 30 which further comprises, at one or both ends of the peptide, one or more sequences of amino acids, wherein said sequences are not taken from the amino acid sequence of the retrovirus MVP5180/91.

29 35. The peptide of claim 30, wherein X is C.

30 36. The peptide of claim 35, wherein C represents a cysteine residue in an oxidized state.

31 37. The peptide of claim 35 comprising the amino acid sequence
RLQALETLIQNQQRLNLWGCKGKLIC.

32 38. The peptide of claim 37, wherein C represents a cysteine residue in an oxidized state.

33 ~~39~~. The peptide of claim 35 comprising the amino acid sequence NQQRLNLWGCKGKLICYTSVKNW.

34 ~~40~~. The peptide of claim 39, wherein C represents a cysteine residue in an oxidized state.

Q18 35 CONT ~~41~~. The peptide of claim 30 comprising the amino acid sequence RLQALETLIQNQQRLNLWGSKGKLIS.

36 ~~42~~. A diagnostic kit for detecting an antibody against a virus that causes immune deficiency comprising the peptide of claim 30.

37 ~~43~~. The kit of claim 42 further comprising at least one control antibody which has a known binding affinity for said peptide.

38 ~~44~~. The kit of claim 43 further comprising written instructions for using said kit.

39 ~~45~~. A diagnostic composition for detecting in a sample an antibody against a retrovirus that causes immune deficiency, the diagnostic composition comprising the peptide of claim 30 and a detectable label.

40 ~~46~~. The diagnostic composition of claim 45, wherein said peptide is detectably labeled.

41 ~~47~~. A method of detecting in a sample an antibody against a retrovirus that causes immune deficiency, the method comprising contacting said sample with the diagnostic composition according to claim 45, and detecting the presence of antibody bound to said diagnostic agent as a result of said contacting.

42 48. An immunogen comprising (a) an amount of the peptide of claim 30 and (b) a physiologically-acceptable excipient therefor, wherein said amount is sufficient to elicit an immune response that protects a susceptible mammal against retrovirus infection.

43 49. A method for the immunization of a mammal against retrovirus infection, comprising administering to said mammal an effective amount of the immunogen of claim 48.

18 cont 44 50. An isolated DNA molecule that encodes the peptide of claim 30.

45 51. A method of detecting the presence of nucleic acid of a human immunodeficiency virus in a sample, comprising the steps of:

(a) providing a sample suspected of containing one or more nucleic acids encoding a protein of an immunodeficiency virus;

(b) contacting the sample of step a with suitable PCR reagents that comprise at least a first and a second oligonucleotide primer that can anneal to the immunodeficiency virus nucleic acid, wherein the first primer is complementary to a nucleic acid sequence from the MVP5180/91 strain of HIV-1 and the second primer is complementary to a known nucleotide sequence of a protein from an immunodeficiency virus; and

(c) detecting the presence of a geometrially amplified product after incubation under conditions suitable for amplification using both primers.

46 52. The method of claim 51, wherein the human immunodeficiency virus is HIV-1 or HIV-2.

46 53. The method of claim 51, wherein the protein of step (b) is selected from the group consisting of the gp41 envelope protein of HIV-1, the p24 protein of HIV-1 or HIV-2, the POL gene of HIV-1 or HIV-2, the LTR gene of HIV-1 or HIV-2, the GAG gene of HIV-1 or HIV-2, the VIF gene of HIV-1 or HIV-2, the ENV gene of HIV-1 or HIV-2, and the NEF gene of HIV-1 or HIV-2.

48 54. A method of detecting the presence of nucleic acid of a human immunodeficiency virus in a sample, comprising the steps of:

(a) providing a sample suspected of containing one or more nucleic acids encoding a protein of an immunodeficiency virus;

Q 18 cont (b) contacting the sample of step a with a labeled DNA wherein the labeled DNA molecule contains a sequence of the MVP5180/91 strain of HIV-1 and the label is capable of generating a signal for detection of the labelled DNA under conditions that allow hybridization of the labeled DNA with complementary nucleic acid to form a hybridization solution; and

(c) detecting a generated signal from the hybridization solution indicating the presence or absence of a nucleic acid encoding the immunodeficiency virus.

49 55. The method of claim 54, wherein the protein of step (a) is selected from the group consisting of the gp41 envelope protein of HIV-1, the p24 protein of HIV-1 or HIV-2, the POL gene of HIV-1 or HIV-2, the LTR gene of HIV-1 or HIV-2, the GAG gene of HIV-1 or HIV-2, the VIF gene of HIV-1 or HIV-2, the ENV gene of HIV-1 or HIV-2, and the NEF gene of HIV-1 or HIV-2. --

Remarks

Applicant respectfully requests that the foregoing amendments be made prior to examination of the present application. These amendments add no new matter. A first Office Action on the merits is awaited.

The Commissioner is hereby authorized to charge for any excess claim fee, excess independent claims fee and surcharge for late filing to the undersigned's Deposit Account No. 08-1641. In the event any variance exists between the amount authorized and the Patent Office fees, please charge or credit any difference to the undersigned's Deposit Account No. 08-1641.